

REMARKS

Reconsideration of the application is requested.

Claims 1-8 remain in the application. Claims 1, 6, and 8 have been amended.

More specifically, the claims have been amended in direct response to the Examiner's statements concerning the discrepancy between applicants' reading of the claims and the Examiner's reading thereof. The Examiner appears to have read the "solid state" of the copper or copper alloy appearing in applicants' claims to also encompass the situation in Grierson, where the metal melt solidifies in the molds.

We do not necessarily agree with the Examiner's reading. However, we nevertheless adapted the claims to unambiguously eliminate the potential for the Examiner's broad interpretation. The claims now, in a variety of different approaches, all provide for a solid state "raw material body" which is subsequently hot-formed in the claimed tool. The copper or copper alloy, in the context of applicants' invention, is in the solid state throughout the process. The material to be formed in the context of the prior art reference Grierson, on the other hand, is first introduced in the liquid state and then transforms into the solid state.

We are mindful of the fact that these sweepingly broad statements must be specifically supported in the individual claims and the wording of the individual claims must be distinguished from the prior art references. In fact, we have here a claim set with relatively intricate claims:

- Claim 1 is an article claim written as a combination claim of a composition. In addition, the composition is written in the closed form ("essentially consisting of").
- Claim 6 is a Jepson-type claim. That is, we define here a hot-forming process for copper and copper alloys wherein the improvement is found in the composition of the tool.
- Claim 8 is also a Jepson-type claim in which the tungsten alloy is used for hot-forming (i.e., molding in the solid state) copper and copper alloys. The improvement, again, is found in the composition of the tool and the fact that this composition is utilized in the context of a hot-forming process.

It is respectfully submitted that each of the independent claims unambiguously distinguishes over the disclosure of the reference Grierson. The molding tool according to Grierson is suitable for transposing liquid materials to a solid state. That is, the materials to be formed are formed via their transition from the liquid melt state to the solid state

without a mechanical-type forming. That is, Grierson does not pertain to hot-forming. The tool in the Grierson process is subject to corrosive attack from the melt. It is subjected to mechanical stresses to only a minor extent.

The hot-forming tool according to the present invention, where the materials to be formed are in their solid state at all times, is primarily subject to mechanical and erosive stress. The resistance of the tool to corrosive attacks is entirely uncritical in this context.

It is further pointed out that the instantly claimed invention makes use of a considerably narrower range in the composition materials as compared to Grierson's alloy range. Also, the claims of the instant application are carefully limited to their application for copper and copper alloy forming. These two differences, while not distinctively establishing a separate invention in and of themselves, must nevertheless be considered as inventive steps that further distinguish over the prior art.

The Examiner is requested to consider one more argument. The reference to Grierson was published more than 25 years ago. In spite of Grierson's disclosure, however, the tools used for hot-forming in Europe - the Grierson protection did not reach to Europe - were formed of material such as inconel steel or

stellites and to a considerably lesser degree tungsten heavy-metal alloys well outside of Grierson's composition range. In other words, while Europe was entirely free to copy the Grierson process or the Grierson tools in the context of hot-forming, such was not done until applicants provided their disclosure. Accordingly, applicants indeed provided an improvement over the prior art and applicants provide claims herein which clearly distinguish over the prior art.

In summary, neither Grierson nor any other of the references of record, whether taken alone or in any combination, either show or suggest the features of claims 1, 6, and 8. These claims are, therefore, believed to be patentable over the art and since all of the dependent claims are ultimately dependent thereon, they are believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 1-8 are solicited.

If an extension of time for this paper is required, petition for extension is herewith made.

In the event the Examiner should still find any of the claims to be unpatentable, he is respectfully requested to telephone counsel so that, if possible, patentable language can be worked out. In the alternative, the entry of the amendment is

requested as it is believed to place the application in better condition for appeal, without requiring extension of the field of search.

Respectfully submitted,



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